

## **"The user proof radio"**

**"High performance radios for the low performance operators of the future."**

By Matt Erickson KK5DR

(Time) Someday in the near future...

Martin is looking at the latest in radio transceivers on the Internet web site of "X-comm Inc." radios. X-comm, designs and manufactures the latest cutting edge radio transceivers, which are advertised as the easiest radio to use. The X-9000 catches Martin's eye, not because it is a beautiful radio, but it's list of features boggles his mind.

Here are the features:

Full voice recognition and command

Fully integrated high-speed Internet access without a PC

Automatic software updates, & fixes via the Internet port

Text-to-voice conversion of e-mails and all "on-air" digital messages as well as CW decoding directly to voice reporting

Voice instructions for installation and setup as well as on-line help and much more

Fully self-diagnosed and self-correcting O.S.

Automated hardware defect detection and reporting to factory

No display, no meters, no knobs, super easy to use, simply speak your command, and the X-9000 does it.

Fully auto-detecting "plug-n-play" peripherals

Fully self-protected.

All this for only \$25,000.00

All sales are factory direct, with free shipping.

Martin thought, "Wow, that is some radio, I always thought ham radios were getting far to complex." He read the fine print at the bottom of the page.

With the purchase of an X-9000, the user will be e-mailed an authentication code needed for the X-9000 to function. Save this code in a safe place until the X-9000 is received and set up.

All sales are final, there are no refunds.

Entering of the authentication code implies agreement to these terms.

Martin thought that this was a bit unusual, but thought about it no more, which may come back to haunt him.

A month later Martin placed an on-line order for an X-9000, putting it on his "platinum" card.

A week later, the package from X-comm arrived via UBS.

Martin eagerly opened the box, but was a little disappointed in what he found. He fully expected a large black cabinet, but found instead a small black box with a large number of ports on what appeared to be the rear of the unit, and only a single small thumb-sized plastic window on what appeared to be the front panel. The little window was dark, and he could not see anything inside it.

Inside the shipped carton were several cables with color coded ends, and a single small page of paper.

There did not appear to be any "users manual".

On the small page were these instructions:

*Please connect the black AC/DC power cable to the four-pin connector on the back panel.  
Next, place your right thumb on the small dark window on the front panel of the X-9000.*

That was it, no further instructions. Martin was a little puzzled, but did as instructed.

Martin then placed his thumb on the little plastic window, he heard a beep, the window lit up red, and a calm male voice came from the unit speaker, "Greetings, from X-comm Inc., I am the X-9000, thank you for your purchase."

Martin was pleased and amused. The next words the unit spoke were very enlightening, the X-9000 asked, "What radio service will I be operating in?" Martin stared at the unit, and said, "Amateur radio." The X-9000 said, "What ITU zone?" Martin did not know what zone, so he just said, "United States." The X-9000 sat silent for a few seconds, then the voice came again, "I am now configured for the US amateur service covering 1.8 to 1200MHz, excluding the 800MHz cellular range for receive." "The RF transmit power output available is 10mWatts to 100 watts." Martin's eyes grew wide, he had never seen such a thing, but before he could even speak again the X-9000 started in again, "Please connect the high-speed Internet cable to the back panel red color coded connector." Martin did just that. A few seconds after the cable was connected, the X-9000 spoke again, "I have detected your existing IP address, and connection configuration, and have established a link." "What is your Authentication code, which was e-mailed to you five days ago?" Martin looked at the screen of his laptop, and read the code aloud slowly. A few seconds past and the X-9000 spoke again, "I have verified the code with the X-comm database, please place your thumb against the window and wait for the beep." Martin did, and a beep sounds a few seconds afterwards. "I have scanned your thumb print, and recorded your voice print, this concludes the authentication phase of the setup." The X-9000 stated.

It then asked, "What is your current call-sign?" Martin gave it slowly. A short time later the X-9000 reported, "Hello Martin, your call-sign has been verified with the FCC database, and privileges have been configured, I look forward to working with you."

By this time Martin was almost giddy, he could hardly wait to get on 14.178Mhz to tell the guys about this fantastic radio he just received! But, before he could start hooking up the antenna, the X-9000 spoke, "Please connect an antenna to the N type port on the back panel." Martin disconnected the beam from the old Kenwood TS-870S that he had been using for many years, and reconnected it to the back panel of the X-9000 with an adaptor. The X-9000 said, "I have detected an antenna which operates on the 20, 15, & 10 meter bands, connected." Martin chuckled at this amazing radio.

Next, the X-9000 requested, "Please connect a USB printer to the green port." Martin did so, and then asked, "How can I connect an external amplifier?" The X-9000 responded, "Connect the amp keying line to the black RCA jack, and the ALC line to the red RCA jack on the back panel, be sure to connect the coax cable from the X-9000 RF output to the amplifier input." Martin connected the keying line, and since he had never used ALC he left this line unconnected. "You have not connected an ALC line Martin, I can not allow this type of operation with an external amplifier, the keying line will remain disabled until the ALC line is connected and properly adjusted." The 9000 firmly stated. Martin was stunned. He then started to look over the cabinet for a way to open it and adjust the RF power output for a higher level, he liked the 150 watt level which drove his amp to over legal limit. However, he could not find any way to get inside the black box, it did not have any screws or even seams, it appeared to be a solid block of plastic. Not even vent holes could be found. Martin then asked, "Can the RF output level be increased?" No Martin, I am currently set for a maximum level of 100 watts." The X-9000 replied. This annoyed Martin, how could he get more drive into his amp with this smart-ass radio refusing to obey him. Oh well he thought, I'll just get on the air and see how this thing sounds to my buddies. Martin inquired, "How can I get to a specific frequency or mode?" The

X-9000 said, "Speak clearly, and tell me what frequency in megahertz and mode, such as SSB, or PSK-8, etc." Martin spoke, "Fourteen point one seven eight megahertz, USB." The X-9000 beeped, and shortly he could hear familiar signals on that frequency.

Martin thought, these signals sound a bit more "tinny" than I like, I wonder... "Can I adjust the receiver audio tones?" he asked. "Yes, you can specify each range of my equalizer within a plus or minus of 10dB." The 9000 replied. Martin was thrilled! "Adjust the low end for 10Hz at plus 10dB." The 9000 responded, "I am sorry, I can not comply, that parameter is out of range, the lower limit is 80Hz, would you like to use that?" Martin stared at the radio, thinking, this is unbelievable, how can a radio like this be limited in such a way. Martin asked, "How can I transmit voice?" The X-9000 replies, "Please connect the supplied microphone or any of the approved microphones to the orange color coded port on the back panel, then speak the command, VOX [on]."

Martin connected his \$1200 studio mic, but hears a long beep and the X-9000 says, "I am sorry, but you have connected an unapproved microphone, please connect either the supplied microphone, or a High EI model."

Martin is getting a bit annoyed at this point. He connects the factory supplied mic, and then gives the VOX [on] command. He hears a short beep and the radio reports, "Now in VOX [on] mode, begin speaking when you wish to transmit." Martin asks, "What is the S-meter reading?" "Average or peak?" the 9000 inquires. Martin says, "Peak." "S-9 plus 30dB." The 9000 reports. Martin asks, "What is the noise level reading?" "There is no noise level." The 9000 reports. Martin thinks, this is impossible, just yesterday there was an, S-8 ambient noise level. At this point the X-9000 states, "Ambient noise it not registered as a coherent signal and is therefore ignored." Martin has a big grin on his face after hearing this.

Martin speaks on the air, and one of the guys on the frequency tells him, "Hey, you sound a little tighter than you normally do." "What are you doing there?" "I'm on a new X-9000 from X-comm, this is one mind blowing radio!" Martin exclaims. He then commands the radio, "Adjust transmit band-width to 6KHz." A long beep sounds, and the 9000 reports, "I am sorry, I can not comply with that command, as it would violate ITU regulations for SSB mode transmissions." Martin sits dumbfounded, then he commands, "Adjust transmit band-width to 4KHz." Again, a long beep and the same report is made. The X-9000 states, "The maximum transmit band-width allowed for SSB is 2.8KHz at -6dB points." Martin sits staring at the radio, thinking, I've spent \$25,000 for this radio, and it can't transmit any wider than an old ICOM PRO II, what a rip-off! After a while, he commands the radio to use 2.8KHz. Then he commands a compression setting of 20dB, again a long beep, and again a non-compliance message is reported, also stating that a 10dB is the maximum setting available.

Martin has gotten a little angry by now and mutters an obscenity, the X-9000 speaks sternly, "An obscenity was detected in my transmit data-stream, I have deleted it." "Transmission of such words would be a violation of FCC and ITU regulations, I can not allow you to do that Martin." The 9000 informs him.

"I'm not going to have a radio that is going to prevent me from transmitting anything I want!" Martin shouts. "I'll return you for a refund!" Beeeep! "All sales are final, there are no refunds, entering the authentication code implies that you have accepted these terms." "However, should you wish to sell this unit, I can place an advertisement on eBay, and QTH.com for you at this time." The 9000 offers.

At hearing this, Martin says, "Yes, please do that, I want to sell you as soon as possible, for whatever I can get for you!" Then Martin leaves the room to get a beer, thinking that his "big" new radio is not quite what he wanted it to be. A few minutes later, he returns to his radio room, when the beep is heard, the X-9000 reports to him, "I have found a buyer on QTH.com, and negotiated a deal which will net a price of \$15,000.00, which has been credited to your Platinum card account, I have notified UBS for a pick up tomorrow morning." "Please repack me in my original boxes with all cables and microphone."

A few seconds later, the printer spit out a copy of the deal, and all pertinent data.

"Thank you for having purchased an X-comm X-9000, it has been pleasant working with you Martin." "Your authentication code will be terminated when you disconnect the main power cable." "Good Bye..." with that, the X-9000 turns its own main power off, and the red window goes dark again.

Martin sits staring at the dark radio, sipping his beer, after nearly an hour he leans over and pulls the AC plug out of the wall socket.

A few minutes later, he reconnects the old TS-870 and turns it back on, shaking his head the whole time.

Martin sits back down and picks up the sheet of printer paper, and noticed that the buyer is X-comm Inc...

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